Determination of Public Land (Rangeland) Health for 65050 EAST SAND TANK

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on these assessments, it is my determination that public land within East Sand Tank, allotment #65050, meets the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species standard. There are no public land Riparian areas on this allotment, therefore this standard was not addressed.

/s/Karen Kelleher	5/25/07
Field Manager	Date

Standards of Public Land Health
Evaluation of 65050 EAST SAND TANK Allotment
[10/15/2006]

The Roswell Field Office conducted Rangeland Health Assessments at 3 study sites within East Sand Tank, allotment #65050. These assessments evaluated Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within each study site vicinity. Existing monitoring data was incorporated into and in support of this field assessment. A summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
65050-BM203-C043	X			X			N/A		
65050-HW189-C044	X			X			N/A		
65050-WS77-C042	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for public land on East Sand Tank, allotment #65050. Ten (10) of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with previous data collected on three study locations within this allotment were utilized to make rangeland health determinations. Quantitative evaluations are performed by the Roswell Field Office, which include some or all of the following: ground and vegetative cover and composition, production, frequency and ecological condition. These collections which were initiated in the late 1970's/early 1980's, are scheduled and conducted approximately every 5 years. This allotment is a "C" (custodial) category due to small amounts of public land present.

A current authorization of 216 AUM's are permitted to graze this allotment. This totals 18 cattle at 100 percent public land. No livestock were present at evaluation however. South Howell Pasture, located in Lea County, is the lone HP-3 Sandy Plains ecological site on 676 acres/273 hectares. Jalmar fine sand, moist (JaA) is the soil, deep and well-drained on high plains of eastern parts of areas surveyed. It formed in alluvial and eolian deposits on 0 to 2 percent slope. Elevation ranges from 4,400 to 4,500 ft/1,333 to 1,363 m. All indicators assessed rated None to Slight and Slight to Moderate with normal ranges of variability. All attributes for soil, hydrological and biotic were matched those expected parameters.

Plains Tank Pasture, also in Lea County is a CP-2 Sandy Plains ecological site at 567 acres/229 hectares in size on a Faskin (FaA) fine sand, 0 to 2 percent slope, deep, well-drained on high terraces in eastern parts of areas surveyed. This soil formed in alluvial and eolian deposits on 3,800 to 4,200 ft/1,151 to 1,272 m elevation. Some evidence of past livestock use exists here. Bare ground is very minimal here as ground cover is either litter or vegetative components. Most

all indicators assessed fell within normal range of variability except for invasive plants. Mesquite (Prosopis glandulosa) was scattered throughout but is of no immediate threat to encroach. Herds of pronghorn (Antilocapra americana) and mule deer (Odocoileus hemionus) were observed. Blue grama (Bouteloua gracilis), black grama (Bouteloua eriopoda), cholla (Opuntia imbricata), and showy windmillgrass (Chloris spp.) were the principal vegetative species encountered. A fenceline dissecting this site, storage tank and dry hole marker were observed here. This old oil or gas site has managed to reclaim adequately with plenty of ground cover of desirable species. Virtually no erosion has occurred on this level site.

Sand Trap Pasture, located in Chaves County is a CP-2 Sand Hills ecological site on 677 acres/274 hectares. Soil is (RPD) Roswell-Jalmar fine sand, hilly occurring on high terraces in eastern parts of area surveyed. Elevation is 3,900 ft/1,181 m to 4,100/1,242 m. Roswell soil occurs on hummocky sand dunes and Jalmar in depressional and interdunal areas. These soil units formed in eolian and alluvial deposits and are deep and well-drained on 5 to 10 percent slope. Most all indicators fell within normal range of variability with minimal departure from ecological reference areas. Soil surface resistance to erosion however rated Moderate as erosion was occurring in at least half the plant canopies and resistance was reduced throughout this site. Soil ped samples for interspace and canopy melted readily using a soil stability test. This suggests physical crusting was only a minor interspace component. This indicator also rated Moderate. Litter in the form of shinnery oak (Quercus havardii) leaves was plentiful and providing a protective mulch layer for this particular pasture. Sand bluestem (Andropogon hallii) was reduced however in favor of dropseed (Sporobolus spp.) species. Excellent brood and nesting cover for lesser prairie chickens (Tympanuchus pallidicinctus) was observed with some bluestem clumps present.

Wildlife - Evaluation of the integrity of biotic community considered several indicators as attribute indices for this area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hydrologic function and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description, such as functional/structural groups and plant mortality & decadence.

In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evaluation. A unique assemblage of terrestrial species and avifauna can be expected to use this ecosystem. Of significance are the sand dune lizard (Scleroporus arenicola) and lesser prairie chicken known only to occur within the vicinity of this ecosystem. The vegetative community of interest is the shinnery oak-tall grass type only found in portions of this Field Office area. Key habitat components include sand bluestem, shinnery oak, sand dune lizard habitat features (dune blowouts) and lesser prairie chicken habitat features (booming grounds & nesting areas). The amount, condition and juxtaposition of these habitat features are used as habitat indicators for this assessment. This assessment begins by determining if the site is within "Core Areas" for lesser prairie chicken. Other important wildlife species and their habitats, such as desert mule deer, pronghorn and a variety of game and non-game species are also considered in this assessment. This area of interest does fall within the Core Area. There are no recent recordings of LPC on this allotment, although potential does exist. Some areas do appear to provide suitable habitat for sand dune lizard. Sand Trap Pasture is the only site where LPC potential does exist however. All sites do provide excellent mule deer and pronghorn habitat ranging from uplands to deep valleys and plains with a variety of soil types.

In the professional opinion of Assessment Team, public land within East Sand Tank, allotment #65050 meets Upland and Biotic standards. There are no Riparian issues present, therefore this standard was not addressed. See site notes and recommendations for further information regarding evaluations on this allotment.

Recommendations: It is recommended that public land on this allotment be surveyed in the spring of 2007 to determine whether LPC leks are present.

Current management should continue for this allotment with grazing systems remaining intact. No brush concerns exist at present.


DATE 1-5-07
FO RFO
ALLOT 65050
PASTURE C044
221
3. 1. 2000


DATE 1-5-07
FO RFO
ALLOT 65050
PASTURE C042
219
3. 1. 2000

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65050-BM203-C043			
Legal Land Desc	NENE 19 0090S 0320E Meridian 23	Acreage	567
Ecosite	070BY055NM SANDY PLAINS CP-2	Photo Taken	Y
Watershed	13060007060 MESCALERO		
Observers	NAVARRO/MOE	Observation Date	01/05/2007
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	FaA	Soil Taxon Name	FASKIN
Texture Class	NM644 LFS	Soil Phase	FASKIN
Texture Modifier	NM644 FINE SAND		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	17.23	NOAA Growing Season Precipitation	12.49
NOAA Avg Annual Precipitation	16.26	NOAA Avg Growing Season Precipitation	13.78
Disturbances and Animal Use:			

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground					X
Comments:	Current estimate is 10%.					
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or					X

	Deposition Areas					
Comments:						
H	Litter Movement					X
Comments:						
S H B	Soil Surface Resistance to Erosion					X
Comments:	Adequate O.M. content in soil.					
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff					X
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:						
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:	Current estimate is 30-40%					
B	Annual Production				X	
Comments:	1000 lbs/ac or kg/ha is the current estimate.					
B	Invasive Plants			X		
Comments:	mesquite is scattered					
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts					X
Comments:	good physical crust					
B	Wildlife Habitat					X
Comments:	Excellent quail and deer habitat-good pronghorn habitat.					
B	Wildlife Populations					X
Comments:	quail, deer, pronghorn pops. excellent.					
B	Special Status Species Habitat					X
Comments:	No special status species habitat present.					
B	Special Status Species Populations					X
Comments:	None					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	3	7
H	Hydrologic	0	0	0	4	7
B	Biotic	0	0	1	4	8

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	0	11
Biotic		0	1	12

Site Notes: This site has no livestock present but some evidence of past use was observed. An old reclaimed dry hole marker is present here but appears to have recovered adequately. Soil is not very deep here compared to other sandy plains ecological sites. Blue grama is the dominant grass here which may indicate a more loamy influence. The majority of this site lies within Southwest Pasture with some lieing within Plains tank as well. This site is in very good condition with mesquite scattered throughout. Pronghorn were observed in fairly good sized herds.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65050-HW189-C044			
Legal Land Desc	NWNE 29 0090S 0320E Meridian 23	Acreage	676
Ecosite	077CY056NM SANDY PLAINS HP-3	Photo Taken	Y
Watershed	13060007060 MESCALERO		
Observers	NAVARRO/MOE	Observation Date	01/05/2007
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	JaA	Soil Taxon Name	JALMAR
Texture Class	NM644 FS	Soil Phase	JALMAR
Texture Modifier	NM644 FINE SAND,MOIST		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	17.23	NOAA Growing Season Precipitation	12.49
NOAA Avg Annual Precipitation	16.26	NOAA Avg Growing Season Precipitation	13.78
Disturbances and Animal Use:			

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns					X
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground				X	
Comments:	current estimate is 20%.					
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or					X

	Deposition Areas					
Comments:						
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:						
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:	current estimate is 20%					
B	Annual Production				X	
Comments:	900 lbs/ac or kg/ha is the current estimate					
B	Invasive Plants				X	
Comments:	cholla and mesquite less than scatterred					
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:	good physical crust					
B	Wildlife Habitat					X
Comments:	excellent pronghorn, good deer and quail					
B	Wildlife Populations					X
Comments:	excellent pop. pronghorn-good deer & quail					
B	Special Status Species Habitat					X
Comments:	none present					
B	Special Status Species Populations					X
Comments:	none					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	5	5
H	Hydrologic	0	0	0	7	4
B	Biotic	0	0	0	6	7

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	0	11
Biotic		0	0	13

Site Notes: This site is located on South Howell Pasture in an area with fluctuating deep and deeper sand complexes. Roads leading into this site are fairly adequate but extensive in some areas. Shinnery oak is not as extensive here with small plants observed. Tall shinnery does exist however at headquarters where there are dirt tanks with higher moisture content. No livestock observed at evaluation.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65050-WS77-C042			
Legal Land Desc	NENW 23 0090S 0310E Meridian 23	Acreage	677
Ecosite	070BY061NM SAND HILLS CP-2	Photo Taken	Y
Watershed	13060007060 MESCALERO		
Observers	NAVARRO/MOE	Observation Date	01/05/2007
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	RPD	Soil Taxon Name	ROSWELL
Texture Class	NM644 FS	Soil Phase	ROSWELL-JALMAR
Texture Modifier	NM644 FINE SANDS,HILLY		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	17.23	NOAA Growing Season Precipitation	12.49
NOAA Avg Annual Precipitation	16.26	NOAA Avg Growing Season Precipitation	13.78
Disturbances and Animal Use:	Mule deer observed in this pasture. No livestock were present.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground					X
Comments:	30-40% is the current estimate					
S H	Gullies					X

Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion			X		
Comments:	some melting of soil ped sample from interspace					
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:						
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount					X
Comments:	litter in the form of shinnery oak is abundant; 50-60% is estimated currently					
B	Annual Production			X		
Comments:	500-500 lbs/ac or kg/ha is estimated currently.					
B	Invasive Plants				X	
Comments:						
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts			X		
Comments:	weak physical crust is apparent					
B	Wildlife Habitat				X	
Comments:	good deer, pronghorn, quail					
B	Wildlife Populations				X	
Comments:	much deer sign					
B	Special Status Species Habitat				X	
Comments:	Excellent brood cover, fair nesting cover (bluestems present, some clumps).					

B	Special Status Species Populations				X	
Comments:						

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	2	4	4
H	Hydrologic	0	0	1	5	5
B	Biotic	0	0	2	7	4

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	2	8
Hydrologic		0	1	10
Biotic		0	2	11

Site Notes: This site was accessed on foot due to the road located on State land. Mule deer were observed at Punta de Culebra point where the elevation rises. Sand Trap Pasture also has the twin windmills but the road was not observed to access this 40 acre polygon. Little bluestem and shinnery were observed in small quantities with marginal nesting only.